Immune System Assignments

I. The First Lines of Defense - Non-Specific Innate Immunity

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|  | Barrier Defenses | Internal Defenses |
| Invertebrates |  |  |
| Vertebrates |  |  |

II. The Second Line of Defense – Adaptive Immunity

1. Compare & Contrast B-cells with T-cells based on the following elements

a. Place of formation and place of maturation

b. Antigen receptor structure & antigen recognition mechanism (diagrams OK)

c. Cells produced from **Proliferation**

2. Explain why

a.) the response to a second exposure to the same pathogen is faster

b.) how a researcher could differentiate between a primary response and a secondary response.

3. Explain the roles of Helper T cells in both types of adaptive immunity.

4. How is HIV able to basically stop the adaptive immune response?

5. Complete the Flow-Chart on the following page which summarizes adaptive immunity.

6. There are many fascinating areas of research involving the immune system. Choose one topic listed below or one of your own likings. Present some general information on the topic and how the immune system is a major factor. Your findings can be presented as a brief essay (2 pages maximum), a PowerPoint, a brochure, a poster… whatever you choose.

a. Organ/Tissue Transplants b. Autoimmune Diseases (choose one)

c. antigenic variation (pathogen evasion of host immune system)

d. Allergies e. Immunizations f. Immunodeficiency (not AIDS)

g. Pregnancy (embryo evasion of mother’s immune system) h. Blood Transfusions